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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,292	09/29/2003	Hironori Hasei	9319G-000567	3126
27572 7590 02/22/2007 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER TADESSE, YEWEBDAR T	
			ART UNIT 1734	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	02/22/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,292	HASEI ET AL.	
	Examiner	Art Unit	
	Yewebdar T. Tadesse	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 November 2006.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 5,6 and 16 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 5,6 and 16 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 29 September 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/19/2006</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 5-6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiguchi et al (US 6,599,582) in view of Miyamoto et al (US 2002/0015800 A1).

With respect to claims 5-6, Kiguchi et al discloses (see Fig 13, column 14, lines 26-53 and column 4, lines 50-61) a device for forming a wiring (wiring patterns, see column 1, lines 21-23) comprising a liquid drop ejecting device for ejecting liquid drops onto a substrate by scanning on the substrate in at least first and second scanning movements; and a surface treatment device for surface treating the substrate wherein

the ejected liquid drops are disposed on the substrate such that predetermined regular intervals are formed therebetween in the first scanning movement, the liquid drops ejected in the scanning movement are disposed to fill the predetermined regular intervals, the substrate is surface-treated by the surface treatment device so that a contact angle of the ejected liquid drops with respect to the substrate is in predetermined range (small contact angle) and a volume of the liquid drops ejected in the first scanning movement is capable of being equal to a volume of the liquid drops ejected in the second scanning movement. Kiguchi et al lacks specifically teaching the contact angle of the liquid droplet with respect to the substrate is in a range of 15° to 45°. Miyamoto et al discloses (see paragraphs 2, 9 16, 45, 60, 67 and 71; Abstract and Fig 1) a thin film manufacturing device (thin film patterned electronic devices) which is provided with a liquid drop ejecting device (ink jet head 10) for ejecting a liquid drop to a substrate and a surface treatment device for performing a surface treatment for a surface of the substrate (see paragraph 71 for treatment chamber) wherein the device for performing a surface treatment performs a surface treatment such that a contact angle of the liquid drops which are ejected from the liquid drop ejecting device is in a predetermined range of 15° to 45° (the contact angle of droplet applied to the substrate falls within 20°-50°, overlapping the claimed range). It would have been obvious to one of ordinary skill in the art at the time the invention to include the contact angle of the liquid droplet with respect to the substrate is in a range of 15° to 45° in Kiguchi et al to form the desired component to the substrate surface.

With respect to claim 16, Kiguchi et al discloses (see column 17, lines 30-67) wherein the predetermined regular intervals are determined by controlling a relative speed of the liquid drop ejecting device with respect to the substrate; and a frequency of the ejection by the liquid drop ejecting device.

4. Claims 5-6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiguchi et al (US 6,599,582) in view of Duineveld et al (US 2002/0060518 A1).

With respect to claims 5-6, Kiguchi et al discloses (see Fig 13, column 14, lines 26-53 and column 4, lines 50-61) a device for forming a wiring (wiring patterns, see column 1, lines 21-23) comprising a liquid drop ejecting device for ejecting liquid drops onto a substrate by scanning on the substrate in at least first and second scanning movements; and a surface treatment device for surface treating the substrate wherein the device ejects the liquid drops on the substrate such that a predetermined regular interval are formed in the first scanning movement, the predetermined interval capable of being twice a diameter of the previously-ejected liquid drop or less, the liquid drops ejected in the scanning movement are disposed to fill the predetermined regular intervals, the substrate is surface-treated by the surface treatment device so that a contact angle of the ejected liquid drops with respect to the substrate is in predetermined range (small contact angle) and a volume of the liquid drops ejected in the first scanning movement is capable of being equal to a volume of the liquid drops ejected in the second scanning movement. Kiguchi et al lacks specifically teaching the contact angle of the liquid droplet with respect to the substrate is in a range of 15° to

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45°. Duineveld et al discloses (see paragraph 19, 82 and 92) a thin film manufacturing device (EL device manufacturing system) which is provided with a liquid drop ejecting device (ink jet printing heads) for ejecting a liquid drop to a substrate and a surface treatment device for performing a surface treatment for a surface of the substrate wherein the device for performing a surface treatment performs a surface treatment such that a contact angle of the liquid drops which are ejected from the liquid drop ejecting device is in a predetermined range capable of being 15° to 45° (anti-wetting treatments such as plasma treatments, corona discharge and surfactants used to treat the surface of the substrate to attain contact angles of more than 50°, 60°, 70° or 80°). It would have been obvious to one of ordinary skill in the art at the time the invention to include the contact angle of the liquid droplet with respect to the substrate is in a range of 15° to 45° in Kiguchi et al to form the desired component to the substrate surface.

With respect to claim 16, Kiguchi et al discloses (see column 17, lines 30-67) wherein the predetermined regular intervals are determined by controlling a relative speed of the liquid drop ejecting device with respect to the substrate; and a frequency of the ejection by the liquid drop ejecting device.

Response to Arguments.

5. Applicant's arguments filed on 11/22/2006 have been fully considered but they are not persuasive. As described above, Kiguchi et al devices eject liquid droplets or drops each having a volume and the volume of the liquid drops ejected in the first scanning movement is capable of being equal to a volume of the liquid drops ejected in

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the second scanning movement because in Kiguchi et al (see column 17, line 30-column 18, line 11 and Fig 1) ejection head in communication with a control circuit (5) ejecting droplets having the desired size (volume of the liquid drops ejected in the first scanning movement is equal or (less or greater than) to a volume of the liquid drops ejected in the second scanning movement). It is noted that the limitation that "a volume of the liquid drops ejected in the first scanning movement is capable of being equal to a volume of the liquid drops ejected in the second scanning movement" is intended use of the apparatus. Kiguchi et al inkjet print heads ejects different or same volume of droplets onto the substrate depending the desired patterns applied on the substrate (see column 16, lines 53-55; any pattern width formed by controlling the energy outputted by the control circuit). As such the claimed intended use limitation is met by these references as described above.

Furthermore, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus shows all of the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) Furthermore, "**expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.**" *Ex parte Thibault*, 164 USPQ 666,667 (Bd. App. 1969). Thus, the "**inclusion of material or article worked upon does not impart patentability to the claims.**" *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 (USPQ 458, 459 (CCPA 1963)). In this case the inclusion the volume or size of the liquid drops do not impart patentability to the claims.

Examiner withdraws rejection with the reference to Furusawa et al in view of the English translation of the foreign priority documents filed on May 16,2005.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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